Fletcher, Heald & Hildreth

ROBERT J. BUTLER
HARRY F. COLE
ANNE GOODWIN CRUMP
DONALD J. EVANS
PAUL J. FELDMAN
KEVIN M. GOLDBERG
DAVID M. JANET
FRANK R. JAZZO
M. SCOTT JOHNSON
DANIEL A. KIRKPATRICK
CHENG-YI LIU
STEPHEN T. LOVELADY
JONATHAN R. MARKMAN
SUSAN A. MARSHALL
HARRY C. MARTIN
MICHELLE A. McCLURE
MATTHEW H. McCORMICK
FRANCISCO R. MONTERO
RAYMOND J. QUIANZON
DAVINA SASHKIN
PETER TANNENWALD
JAMES U. TROUP
KATHLEEN VICTORY
HOWARD M. WEISS

* NOT ADMITTED IN VIRGINIA

1300 NORTH 17th STREET, 11th FLOOR
ARLINGTON, VIRGINIA 22209

OFFICE: (703) 812-0400
FAX: (703) 812-0486
www.fhhlaw.com
www.commlawblog.com

RETIRED MEMBERS
VINCENT J. CURTIS, JR.
RICHARD HILDRETH
GEORGE PETRUTSAS
JAMES P. RILEY

OF COUNSEL
THOMAS J. DOUGHERTY, JR.
ROBERT M. GURSS*
KATHRYN A. KLEIMAN
MITCHELL LAZARUS
TONY S. LEE
ROBERT J. SCHILL
LAURA A. STEFANI*
ROBERT M. WINTERINGHAM

July 13, 2015

LAURA STEFANI
(703) 812-0450
STEFANI@FHHLAW.COM

Via Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: IB Docket No. 13-213 and RM-11685
***Ex Parte* Filing of the Hearing Industries Association**

Dear Ms. Dortch:

The Hearing Industries Association ("HIA"), through counsel, hereby provides this *ex parte* letter to note concerns about the impact on unlicensed operations that are critical to persons with disabilities from Globalstar's proposed use of the 2.4 GHz ISM frequency band for low-power terrestrial network. HIA urges the Commission to review Globalstar's proposal carefully and to proceed cautiously, and only on the basis of sufficient technical information, before it takes any action. HIA is particularly concerned about the impact of Globalstar's proposal on hearing technologies and assistive technologies and thus its potentially disproportionate adverse impact on people with hearing loss.

Background

HIA is the trade association of hearing aid manufacturers and represents manufacturers of some 85% of the hearing aids sold in the United States. HIA's members make every effort to design their products to meet all the needs of their customers, including ensuring compatibility with as many other electronics products as possible.

Hearing aids and hearing aid accessories are vital to many Americans as a means of staying connected and involved with the world around them. More and more, the usefulness of hearing aids and hearing aid accessories will depend on interaction with other devices (*i.e.*, smartphones and tablets), which will require use of Bluetooth and other technologies deployed in unlicensed bands such as the 2.4 GHz ISM band. This advanced hearing aid technology is in use already. In fact, close to 90% of hearing aids sold in the U.S. this year include wireless features, such as remote controls, remote microphones, telephone and TV streamers, and analog FM transmitters and receivers. Wireless technology now enables people with hearing loss to use assistive listening device ("ALD") apps on their wireless devices; to use companion microphone devices in classrooms or noisy environments; to adjust hearing aids from a remote device; to route telephone calls and audio streams from television, MP3 devices and sound systems to their hearing aids; and to enjoy the benefit of ear-to-ear ("E2E") communications systems for people who have total hearing loss in one ear. Some 22% of wireless hearing assistance devices use Bluetooth or other low power technologies.

The exciting future of the Internet of Things (IoT), home healthcare delivery, and other technological advances creates an ever growing list of new services and benefits. People with hearing loss desire the same ability as others to use these new services and technologies, including technologies that create new possibilities to improve their lives. A common RF protocol is essential for technology interaction to occur. Bluetooth technology promises to meet that need and to connect people with hearing loss directly to wireless systems at home, at work, in their automobiles, and other places.

There are relatively few widely-adopted RF protocols with both the breadth of use and technical attributes to serve as an interoperability function between other systems and hearing technologies. Bluetooth is particularly important because of its widespread deployment by many independently manufactured devices and its affordable cost. If the reliability of Bluetooth is threatened, that may rob people with hearing loss of the ability to fully participate in society and threaten to block development of future beneficial technologies.

Globalstar's Proposal

Globalstar seeks to deploy terrestrial broadband equipment in both the 2483.5-2495 MHz portion of the S Band, where is it licensed to operate Mobile Satellite Service ("MSS"), and in the 2473-2483.5 MHz band, where unlicensed devices operate. HIA shares concerns raised by the Bluetooth SIG with regard to the possible detrimental impact by Globalstar on Bluetooth operations.[1]

When Wi-Fi Channels 1, 6, and 11 are congested, the 2473-2483.5 MHz band is necessary for Bluetooth operations – as Bluetooth SIG notes, this is a "safe haven" for Bluetooth devices. The same is true for ALDs that use other low power unlicensed technologies on the 2.4 GHz band.

[1] *See* Bluetooth SIG, *Further Comments and Detailed Report from TLPS & Bluetooth Demonstrations, FCC Technology Center - March 6, 2015*, IB Docket No. 13-213 and RM-11685 (filed March 20, 2015).

The "testing" and data presented to the FCC by Globalstar to date has been very limited and controlled, and HIA does not find that they adequately evaluate the range of scenarios or the potential impact of Globalstar's proposed TLPS operations on unlicensed users.[2] Further peer review of the testing done to date, and testing that better reflects real-world conditions, is needed to adequately understand the risks of Globalstar's proposal and also to explore what mitigations might minimize any negative impacts.

As a general matter, in this new era of extensive spectrum sharing, the Commission must carefully consider the interactions of the operations of all users – licensed and unlicensed, high power and low power, mobile and fixed alike. The public interest is best served by starting with a full understanding of the risks and potential impacts of any proposed change to the spectral environment. In the 2.4 GHz band especially, where many uses vitally important to consumers and our economy have proliferated, the FCC must be extremely cautious.

HIA has participated successfully in coordinating accessibility concerns related to hearing aid compatibility with the mobile phone industry, with the ANSI C63.19 standard being the technical basis of industry consensus on that issue. This standard, now in its fourth revision, has allowed the hearing industry and the mobile handset industry to coordinate their developing technologies to allow technological development while protecting hearing aid compatibility. In contrast, with the Globalstar proposal, the risks are not well understood and the technical work to minimize interference has not been done. However, as with the development of ANSI C63.19, this work might be done in a neutral and collaborative forum and solutions might be possible that would adequately manage any risks while allowing technology to advance. HIA asks the Commission to strongly encourage more involvement by neutral and collaborative forums rather than by individual stakeholders.

[2] *See id*. at p. 13 of attachment (noting packet loss error and increased congestion caused by TLPS, "forcing Bluetooth devices to utilize less spectrum in the ISM band").

Please direct any questions to the undersigned.

Respectfully submitted,

Laura A. Stefani
Counsel for The Hearing Industries Association

cc: Mindel De La Torre
Robert Nelson
Jose Albuquerque
Karl Kensinger
Troy Tanner
Lynn Montgomery
Stephen Duall
Renee Gregory
Julius Knapp
Geraldine Matisse
Paul Murray
Jamison Prime
Aspasia Paroutsas
Karen Rackley
Hugh Van Tuyl
Rodney Small
Serey Thai